

ATTORNEY DOCKET NO. 12016.0042U1
APPLICATION NO. 09/813,681

Listing of Claims

1. (Amended) A method of transmitting print data from a host to a printing device for processing, comprising the steps of:
- (a) dividing the print data into separate data streams;
 - (b) dividing the data streams into data segments;
 - (c) compressing the data segments with a compression algorithm;
 - (d) creating a print header containing instructions for processing each data segment[,] and embedding within the print header a map detailing the order in which the data segments will be transmitted from the host to the printing device, wherein the print header is embedded within each data segment, the header including information that describes the size of data in the data segment in compressed and uncompressed form;
 - (e) sending the print header from the host to a printing device;
 - (f) sending the data segments from the host to a printing device;
 - (g) decompressing the data segments;
 - (h) allocating printer memory space to store the decompressed data segment; and
 - (i) processing the decompressed data segments according to the instructions contained in the print header to produce a printed item.

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2. (Original) The method of claim 1, wherein the step of compressing the data segments is performed using different compression algorithms for different segments.

Claims 3-4. (Canceled)

5. (Original) The method of claim 1, where the step of allocating memory for storing decompressed data further comprises the step of allocating memory partitions according to the size of each uncompressed data segment, such that the size of the partition is similar to the size of the decompressed data segment.
6. (Original) The method of claim 1, where the step of creating a print header further comprises the step of embedding within the print header information about the relative positions of a color to be applied to a printing medium during the printing process.

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7. (Original) The method of claim 1, wherein the printing device is an inkjet printer with color capability.
8. (Original) The method of claim 7, wherein the step of dividing the print data into streams is performed such that each of the streams contains only print data for one color of ink.
9. (Original) The method of claim 8, further comprising the step of calculating the beginning and ending points of application for each color of ink applied to the surface of the printing medium by the printing device during the printing of a swath.

Claims 10-15. (Canceled)

16. (Amended) A system for processing print data, comprising:
 - (a) a print data host, wherein the print data host performs the steps of:
 - (i) dividing the print data into separate data streams;
 - (ii) dividing the print data streams into data segments;
 - (iii) compressing the data segments with a compression algorithm;
 - (iv) creating a print header containing instructions for processing each data segment, wherein the print data host embeds a header in each data segment that contains information in the header which describes the size of data in the segment in compressed and uncompressed form[;] and wherein the print header further contains a map detailing the order in which the data segments will be transmitted from the print data host to the printing device;
 - (v) sending the print header and data segment from the host to a printing device; and
 - (b) a printing device, wherein the printing device performs the steps of:
 - (i) decompressing the data segments received from the print data host;
 - (ii) allocating printer memory space to store the decompressed data segments; and
 - (iii) processing the decompressed data segments according to the instructions contained in the print header to produce a printed item.

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17. (Original) The system of claim 16, wherein the print data host compresses the data segments using different compression algorithms for different segments.
18. (Canceled)
19. (Original) The system of claim 16, wherein the print data host embeds a header in each data segment that describes the compression scheme employed.
20. (Original) The system of claim 16, wherein the print data host embeds within the print header information about the relative positions of each color to be applied to a printing medium during the printing process.
21. (Original) The system of claim 16, wherein the printing device host allocates memory for storing decompressed data according to the size of each uncompressed data segment, such that the size of the partition is similar to the size of the decompressed data segment.
22. (Original) The system of claim 16, wherein the printing device is an inkjet printer with color capability.
23. (Original) The system of claim 22, wherein the print data host arranges print data into data streams such that each of the data streams contains data for only one color of ink.
24. (Original) The system of claim 23, wherein the printer calculates the beginning and ending points of application for each color of ink applied to the surface of the printing medium by the printing device during the printing of a swath.

Claims 25-39. (Canceled)

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40. (New) A method of transmitting print data from a host to a printing device for processing, comprising the steps of:
- (a) dividing the print data into separate data streams;
 - (b) dividing the data streams into data segments;
 - (c) compressing the data segments with a compression algorithm;
 - (d) creating a print header containing instructions for processing each data segment, wherein the print header is embedded within each data segment, the header including information that describes the size of data in the data segment in compressed and uncompressed form;
 - (e) sending the print header from the host to a printing device;
 - (f) sending the data segments from the host to a printing device;
 - (g) performing DMA interrupts at the start and end of each color in the data streams and at coordinated points in the data streams;
 - (h) decompressing the data segments;
 - (i) allocating printer memory space to store the decompressed data segment; and
 - (j) processing the decompressed data segments according to the instructions contained in the print header to produce a printed item.
41. (New) The method of claim 40, wherein the step of compressing the data segments is performed using different compression algorithms for different segments.
42. (New) The method of claim 40, where the step of allocating memory for storing decompressed data further comprises the step of allocating memory partitions according to the size of each uncompressed data segment, such that the size of the partition is similar to the size of the decompressed data segment.
43. (New) The method of claim 40, where the step of creating a print header further comprises the step of embedding within the print header information about the relative positions of a color to be applied to a printing medium during the printing process.

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44. (New) The method of claim 40, wherein the printing device is an inkjet printer with color capability.
45. (New) The method of claim 44, wherein the step of dividing the print data into streams is performed such that each of the streams contains only print data for one color of ink.
46. (New) The method of claim 45, further comprising the step of calculating the beginning and ending points of application for each color of ink applied to the surface of the printing medium by the printing device during the printing of a swath.
47. (New) The method of claim 40, wherein the step of creating a print header further comprises the step of embedding within the print header a map detailing the order in which the data segments will be transmitted from the host to the printing device.
48. (New) A computer program product encoded in a computer readable medium, the program product encoded for transmitting print data from a host to a printing device for processing, the program product encoded to perform the steps of:
- (a) dividing the print data into separate data streams;
 - (b) dividing the data streams into data segments;
 - (c) compressing the data segments with a compression algorithm;
 - (d) creating a print header containing instructions for processing each data segment and embedding within the print header a map detailing the order in which the data segments will be transmitted from the host to the printing device, wherein the print header is embedded within each data segment, the header including information that describes the size of data in the data segment in compressed and uncompressed form;
 - (e) sending the print header from the host to a printing device;
 - (f) sending the data segments from the host to a printing device;
 - (g) decompressing the data segments;
 - (h) allocating printer memory space to store the decompressed data segment; and
 - (i) processing the decompressed data segments according to the instructions contained in the print header to produce a printed item.

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49. (New) The method of claim 48, wherein the step of compressing the data segments is performed using different compression algorithms for different segments.
50. (New) The method of claim 48, where the step of allocating memory for storing decompressed data further comprises the step of allocating memory partitions according to the size of each uncompressed data segment, such that the size of the partition is similar to the size of the decompressed data segment.
51. (New) The method of claim 48, where the step of creating a print header further comprises the step of embedding within the print header information about the relative positions of a color to be applied to a printing medium during the printing process.
52. (New) The method of claim 48, wherein the printing device is an inkjet printer with color capability.
53. (New) The method of claim 48, wherein the step of dividing the print data into streams is performed such that each of the streams contains only print data for one color of ink.
54. (New) A computer program product encoded in a computer readable medium, the program product encoded for transmitting print data from a host to a printing device for processing, the program product encoded to perform the steps of:
- (a) dividing the print data into separate data streams;
 - (b) dividing the data streams into data segments;
 - (c) compressing the data segments with a compression algorithm;
 - (d) creating a print header containing instructions for processing each data segment, wherein the print header is embedded within each data segment, the header including information that describes the size of data in the data segment in compressed and uncompressed form;
 - (e) sending the print header from the host to a printing device;
 - (f) sending the data segments from the host to a printing device;

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- (g) performing DMA interrupts at the start and end of each color in the data streams and at coordinated points in the data streams;
- (h) decompressing the data segments;
- (i) allocating printer memory space to store the decompressed data segment; and
- (j) processing the decompressed data segments according to the instructions contained in the print header to produce a printed item.

55. (New) The method of claim 54, where the step of creating a print header further comprises the step of embedding within the print header information about the relative positions of a color to be applied to a printing medium during the printing process.

56. (New) The method of claim 54, wherein the printing device is an inkjet printer with color capability.